9/1/01

BULK SPECIFIC GRAVITY OF COMPACTED HOT MIX ASPHALT USING SATURATED SURFACE-DRY SPECIMENS AASHTO T 166

APPARATUS

- [ ] Balance
  - [ ] Suspension apparatus from center of balance pan
  - [ ] Suspension wire of smallest practical size
  - [ ] Holder and sample completely immersed
- [ ] Water Bath
  - [ ] Equipped with overflow outlet to maintain constant water level
  - [ ] Deep enough to completely immerse holder and sample
  - [ ] Water is 77 ± 1.8°F
- [ ] Room temperature is 77 ± 9°F
- [ ] Large flat bottom drying pan (Method C)

PROCEDURE -- METHOD A

- [ ] Specimen dried overnight at 125 ± 5°F and weighed at 2-hour drying intervals until constant mass (Note 1) is achieved (not necessary for recently molded specimens)
- [ ] Specimen cooled to room temperature at 77 ± 9°F and weighed
- [ ] Specimen immersed in water for 3-5 minutes and weight recorded
- [ ] Specimen surface dried by blotting with a damp towel as quickly as possible and weighed (Note 2)

Note 1 -- Constant weight for Method A is defined as the weight at which further drying at 125 ± 5°F does not alter the weight by more than 0.05 percent.

Note 2 -- Terry cloth has been found to work well for use as a towel. Damp is considered to be when no water can be wrung from the towel.

[ ] Bulk specific gravity is calculated correctly to three decimal places (0.000) as follows:

$$\text{Bulk Specific Gravity} = \frac{A}{B - C}$$

where:
A = weight in grams of sample in air
B = weight in grams of surface - dry specimen in air
C = weight in grams of sample in water

[ ] Percent water absorbed by specimen is equal to or less than 2 percent by volume as follows:

$$\text{Percent Water Absorbed by Volume} = \frac{B-A}{B-C} \times 100$$

PROCEDURE -- METHOD C (RAPID TEST FOR SPECIMENS OBTAINED BY CORING OR SAWING)

[ ] Specimen immersed in water for 3-5 minutes and weight recorded
[ ] Specimen surface dried by blotting with a damp towel as quickly as possible and weighed (Note 2)
[ ] Specimen placed in large flat bottom drying pan of known weight
[ ] Pan and specimen placed in oven at 230 ± 9°F until the specimen can be easily separated to the point where the particles of the fine aggregate - binder portion are not larger than 1/4 in.
[ ] Separated specimen dried in oven at 230°F to constant weight (Note 3)

Note 3 -- Constant weight for Method C is defined as the weight at which further drying at 230 ± 9°F does not alter the weight by more than 0.05 percent

[ ] Pan and specimen cooled in air to room temperature at 77 ± 9°F and weighed
[ ] Dry weight of specimen determined by subtracting the weight of pan from weight of pan and sample

[ ] Bulk specific gravity is calculated correctly to three decimal places (0.000) the same procedure used in Method A

NA - Not Applicable
X - Requires Corrective Action
√ - Satisfactory

_____
Acceptance Technician

_____ _____
INDOT Date

Comments _____

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